

Attachment 74

REBUTTAL EXPERT REPORT OF WILLIAM J. VIOLETTE, Ph.D

Executive Summary

The Federal Trade Commission asked me to respond to parts of four expert reports submitted on behalf of Amazon, Inc.—by Dr. Donna L. Hoffman, Dr. Craig Rosenberg, Dr. Ran Kivetz, and Dr. Ronald T. Wilcox—concerning consumers who are enrolled and cancel (or try to cancel) Amazon’s Prime subscription service. Based on my reading of those reports, the work I did in preparation of my own expert report, and my review of the documents and data in this matter, I have reached the following opinions in response to Amazon’s experts.

First, without empirical analysis, Drs. Hoffman and Rosenberg opine that Amazon’s “clarity initiatives”—pre-litigation experiments that Amazon conducted on changes to its Prime enrollment processes—are difficult to interpret or inconsistent with reducing unintentional Prime enrollment.

Based on my analysis of Amazon’s data and experiments, I find the evidence suggests the clarity initiatives (which I called “Signup Weblabs” in my earlier report) reduced unintended Prime enrollment. Both Dr. Hoffman’s and Dr. Rosenberg’s alternative theories disregard empirical evidence and subscriber data showing selected treatments reduced unintentional enrollment.

Second, without any independent quantitative analysis, Dr. Kivetz opines that Amazon’s 2020 Search Sentiment Survey is invalid and unreliable to estimate unintentional Prime enrollment. Based on my analysis of the Search Sentiment Survey data and Prime subscriber data, the data disprove Dr. Kivetz’s alternate explanations for the survey results, such as memory bias, guessing, noise, and free trial subscribers.

Third, Dr. Wilcox performed a survey study that purports to simulate Amazon’s process, which it called the “Iliad,” for consumers to cancel their Prime subscriptions. He found nearly all participants found how to cancel and paused or ended their subscription. He opined this is inconsistent with the FTC’s allegations that Amazon’s process inhibited or prevented Prime members from cancelling.

I find Dr. Wilcox’s conclusions are invalid because his simulated cancellation process was easier to complete than Amazon’s actual process in three critical ways. First, instead of letting participants locate the cancellation process he placed them at the Prime Central page where he told them to cancel their subscription and twice instructed them: this is “where you can manage your Amazon Prime membership settings.” Second, Dr. Wilcox re-directed participants back to the correct page whenever they clicked an extraneous link. Third, Dr. Wilcox gave each participant as many as 15 course-correcting instructions whenever they mistakenly went astray. None of that happened in the real world for consumers trying to cancel Prime. In analyzing Dr. Wilcox’s data, I found he gave course-correcting instructions to 39% of participants. The highest quintile of time spent in the cancellation exercise had over double the average time taken and over triple the average course-correcting instructions given compared to all other quintiles. I find this evidence contradicts Dr. Wilcox’s conclusion.

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Introduction

1. I am William J. Violette. I am an economist in the Consumer Protection Division of the Bureau of Economics at the Federal Trade Commission (“FTC”), where I have worked since 2018. The FTC case team asked me to evaluate portions of the expert reports submitted on behalf of Amazon, Inc. by Dr. Donna L. Hoffman, Dr. Craig Rosenberg, Dr. Ran Kivetz, and Dr. Ronald T. Wilcox in *FTC v. Amazon, Inc.*, Case No. 2:23-cv-0932-JHC (W.D. Wash.).¹ This rebuttal report responds to certain issues raised by these experts in their reports, but it is not intended to be a comprehensive response to their opinions. Specifically, in my rebuttal report, I focus on (i) Dr. Hoffman’s and Dr. Rosenberg’s opinions on Amazon’s experiments related to improving how clearly and conspicuously it displays the terms of Prime upsells to consumers, a process Amazon referred to as “clarity” improvements,² (ii) Dr. Kivetz’s critiques of Amazon’s “Search Sentiment Survey,”³ and (iii) Dr. Wilcox’s survey study and Amazon’s online process to cancel Prime.
2. I also submitted an expert report in this matter. My qualifications as an expert and my current CV were provided as part of my report in this matter. I have experience analyzing market research surveys and economic field experiments, as shown in my report.
3. I understand that discovery in this matter is ongoing. In that regard, I reserve the right to update my analysis as further information becomes available in this matter. Further, I will continue to review the record, including evidence developed since my initial report, prior to my testimony.

¹ See Expert Report of Donna L. Hoffman, Ph.D. (Feb. 24, 2025) (“Hoffman Report”); Expert Report of Craig Rosenberg, Ph.D. (Feb. 24, 2025) (“Rosenberg Report”); Expert Report of Dr. Ran Kivetz (Feb. 24, 2025) (“Kivetz Report”); Expert Report of Ronald T. Wilcox, Ph.D. (Feb. 24, 2025) (“Wilcox Report”).

² The “Clarity Initiatives” Dr. Hoffman evaluates, see Hoffman Report, at 217-239 (discussing 2018 and 2020 clarity weblabs), as well as the “A/B testing” Rosenberg discusses, see Rosenberg Rep. at 29-46 (same), generally cover the same “Signup Weblabs” I analyzed in my expert report. See Expert Report of William J. Violette, Ph.D. (Feb. 24, 2025) (“Violette Report”), at 7-16 (same); see also AMZN_00110899.

³ Dr. Kivetz’s report discusses the same Amazon Search Sentiment Survey that I opined on in my expert report. See Kivetz Report, at 229-235; Violette Report, at 16-25.

Part 1: Dr. Hoffman’s and Dr. Rosenberg’s opinions about the results of Amazon’s clarity-related experiments are flawed

4. In this section, I discuss flaws in Dr. Hoffman’s and Dr. Rosenberg’s opinions about Amazon’s “clarity initiatives,” which I referred to as the “Signup Weblabs” in my expert report. These weblabs experimented with “increasing the clarity” of design elements in the Prime signup process, and specifically for Prime’s Universal Prime Decision Page (“UPDP”) upsell.⁴ Without pointing to any empirical analysis, Drs. Hoffman and Rosenberg opine the results of the experiments were difficult to interpret or inconsistent with the tested clarity improvements having reduced unintentional enrollments. In my report, however, I showed that (1) the Signup Weblabs were valid, randomized experiments; (2) they reliably estimated effects of clarity-related design changes in UPDP upsells on consumer outcomes; and (3) the UPDP design changes in these weblabs resulted in fewer Prime signups.
5. In the first subsection below, I address Dr. Hoffman’s opinion that Amazon could not interpret results of its Signup Weblabs due to a lack of information about consumers’ state of mind.⁵ Dr. Hoffman ignores available evidence of consumers’ intent. Specifically, as described below, my analysis of data from Amazon’s survey of customers who cancelled Prime shows that the consumers in the treatment group (i.e., consumers who were shown the “clearer” UPDP upsells) who subscribed to Prime were less likely to identify themselves later as unintentionally enrolled compared to consumers in the control group (i.e., consumers who were *not* shown the “clearer” UPDP upsells) who subscribed to Prime.
6. In the next subsection, I address Dr. Hoffman’s and Dr. Rosenberg’s opinions that the results of the Signup Weblabs were mixed or did not show that clarity improvements actually resulted in fewer

⁴ AMZN_00080322; *see also* Violette Report, ¶¶ 18-24 (describing the six clarity-related weblab experiments and respective treatments that Amazon studied in its meta-analysis in 2021).

⁵ Hoffman Report, ¶¶ 343-344.

unintentional signups.⁶ The available evidence contradicts their opinions. The results of the experiments show that, compared to the respective control groups, consumers in the selected treatment groups (i.e., those shown the “clearer” UPDP upsells) who subscribed to Prime had higher benefit usage, fewer customer service cancellations for reasons Amazon associated with unintentional enrollment, and higher proportion of those who remained subscribers 12 months after signup. These patterns contradict Dr. Hoffman’s and Dr. Rosenberg’s opinions that design changes to the UPDP upsells did not reduce unintentional enrollments.

Dr. Hoffman ignores evidence that indicates Amazon’s clarity improvements had a measurable impact on unintentional enrollment

7. To measure whether participants in the Signup Weblabs intended to sign up for Prime, Dr. Hoffman states Amazon needed, but lacked, a “mechanism to measure and assess how the behaviors [Amazon was] observing connected to consumer intent to sign up for Prime.”⁷ However, Dr. Hoffman did not independently analyze one such mechanism that was available to her and to Amazon: Amazon’s survey of consumers who cancel their subscriptions online (“Cancellation Survey”), which provides insight into unintentional enrollments.⁸ Among other things, Amazon’s Cancellation Survey asked consumers two questions about their reasons for cancelling and offered “I did not intend to sign up” as a response choice for these questions. Dr. Hoffman does not mention or analyze these responses, which (1) directly address her critique that Amazon lacked data to evaluate consumers’ intentions and (2) suggest the Signup Weblabs reduced unintended signups.

⁶ See Hoffman Report, Section X.B; Rosenberg Report, Section 4.3.

⁷ Hoffman Report, ¶ 343.

⁸ A previous iteration of the survey was launched around September 2018, and its present version has been operative since around April 2020. See Kivetz Report, ¶ 19. Another FTC expert witness has opined on the reliability of the Cancellation Survey to draw inferences about unintentional enrollment in Prime through Amazon’s upsells, including the UPDP. See Expert Report of Neale Mahoney, Sections II.D & III (Mar. 24, 2025) (“Mahoney Report”).

8. For purposes of this report, I assume the Cancellation Survey provides a valid measure of weblab participants' intentions to sign up for Prime. Overall, the Cancellation Survey gathered over [REDACTED] [REDACTED] responses between April 2020 and February 2024,⁹ including responses from many participants in the Signup Weblabs.
9. My analysis of the Cancellation Survey data indicates that clarity-related design changes to the treatments in the Signup Weblabs made it more likely that consumers who signed up for Prime intended to do so. I used Amazon's data for participants in the '596 weblab along with the survey data to measure the effect of treatment T5 (i.e., the treatment Amazon studied for the 2021 meta-analysis) on unintentional enrollments.¹⁰ As discussed in my expert report, T5 included multiple design changes, such as changing the Prime decline prompt from hyperlinked text ("No thanks, I do not want fast FREE delivery") to a button ("No thanks").¹¹ Amazon conducted this weblab from January 20 to February 18, 2020.¹²
10. I examined [REDACTED] participants of the '596 weblab who (1) signed up through the UPDP upsell on the same day they viewed either treatment T5 or the control and (2) took the Cancellation Survey between May 8, 2020 and February 5, 2024.¹³ Among these participants, I identified unintentional enrollees as those who chose the answer, "I did not intend to sign up for Prime" in response to either of the two survey questions that asked about respondents' reasons for canceling.

⁹ Mahoney Report, ¶ 39.

¹⁰ AMZN-PRM-001184311 at -313.

¹¹ Violette Report, ¶ 24; AMZN-PRM-FTC-002650294; AMZN_00080322 at -324.

¹² AMZN-PRM-FTC-002650294 at -307.

¹³ The file "responseid_CIDv2" in Amazon's production links survey response identifiers to the field *customer_id_hashed* identifying customers in other datasets. The file "SV_00InYvHGGzsKsBf" in AMZN-PRM-FTC-DATA-00000017 contains the raw data for the Cancellation Survey for which Amazon provided mapping information.

11. Among [REDACTED] participants in the control group, [REDACTED] or [REDACTED] reported being unintentional enrollees. Among [REDACTED] participants in the T5 treatment group, [REDACTED] or [REDACTED] reported being unintentional enrollees. I computed Welch's t-test to test whether the difference in these two averages is statistically different from zero. Welch's t-test is appropriate for situations where the sample size of one group is much different from the other group as well as where the sample sizes are small.¹⁴
12. Using Welch's t-test, I found that the difference in these averages is statistically significantly different from zero at least at the 1% level. This provides strong, statistical evidence against the hypothesis that the average reported rate of unintentional enrollment is the same across the treatment and control groups.¹⁵ This finding indicates that the T5 "clarity" treatment statistically significantly reduced the share of participants who reported having unintentionally enrolled.
13. According to Dr. Hoffman, "in these clarity improvement initiatives Amazon attempted to address customer frustrations about Prime's UPDP page and sign-up clarity, specifically focusing on reducing unintended signups of Prime membership by customers."¹⁶ The reductions in unintentional signups documented by the Cancellation Survey suggest that Amazon succeeded.

Results of the Signup Weblabs contradict Dr. Hoffman's and Dr. Rosenberg's theories about why signups decreased for reasons other than improved clarity

14. Dr. Hoffman's and Dr. Rosenberg's alternative theories explaining the results of the Signup Weblabs disregard empirical evidence and subscriber data consistent with the selected treatments reducing unintended signups. For example, compared to the respective control groups, consumers in the selected treatment groups:

¹⁴ See Robert M. West, "Best practice in statistics: Use the Welch t-test when testing the difference between two groups," *Annals of Clinical Biochemistry*, 58(4) (2021): 267-269.

¹⁵ Larry Wasserman, *All of Statistics: A Concise Course in Statistical Inference*, (Springer, 2013), at 157.

¹⁶ Hoffman Report, ¶ 317.

- (i) had increased use of benefits available to Prime subscribers per signup. Amazon’s 2021 retrospective analysis showed that participants in the selected treatment groups had lower signup rates but those who signed up had higher rates of shipping and digital Prime benefit use.¹⁷ Across the six selected treatments, Amazon found that “most experiments saw an increase in benefit engagement rate (shipping benefit usage for members within 31-90 days of signup changed from [REDACTED] to [REDACTED] and digital benefit usage in the same period improved [REDACTED] to [REDACTED]).”¹⁸ These findings thus satisfy Dr. Hoffman’s description of Amazon’s expectations that “a presumably clearer positive CTA [i.e., “call to action,” the process for a consumer to take action] would reduce upfront signups, but increase benefit usage due to having more aware and engaged members.”¹⁹
- (ii) had fewer customer service cancellations with “unintended signups” as the reason. Amazon’s retrospective analysis also shows that the six selected treatments in the Signup Weblabs “had positive outcomes in the form of reduced [customer service] cancellations with reason code ‘unintended signup.’”²⁰
- (iii) were less likely to identify as unintentional enrollees in Amazon’s Cancellation Survey. As I demonstrated above, compared to the control group in the ‘596 weblab, the treatment group included in the retrospective study (i.e., T5) had a fewer share of participants identify their reason for cancelling Prime as unintentional enrollment.

¹⁷ AMZN-PRM-001184311 at -313.

¹⁸ AMZN-PRM-001184311.

¹⁹ Hoffman Report, ¶ 328.

²⁰ AMZN-PRM-001184311 at -312.

15. These patterns, along with others I highlight in my opening expert report, are consistent with the explanation that the Signup Weblabs improved clarity of the UPDP.²¹ Instead of addressing this evidence or offering independent analysis, Dr. Hoffman and Dr. Rosenberg speculate on other explanations for the decrease in signups in the selected treatment groups.
16. First, Dr. Hoffman and Dr. Rosenberg suggest the treatment UPDP design may have provided less information on Prime benefits and may have been less persuasive than the control.²² Neither of them point to the treatments at issue and explain how they provide less information or are less persuasive. For example, the T2 treatment in the PRIME_153956 weblab removed a shadow box around text but did not alter the text. Dr. Hoffman and Dr. Rosenberg simply opine some unidentified loss of informativeness and persuasion could have led to fewer signups.
17. Even if Dr. Hoffman and Dr. Rosenberg were right about the design changes, the implications that the design changes are less persuasive or informative are inconsistent with the results of the Signup Weblabs. In particular, one would expect that consumers who signed up for Prime after being exposed to less persuasive or less informative treatment pages would have also likely used fewer benefits than those who signed up on control pages because, based on having seen the treatment pages, they either were unaware of Prime benefits or were not persuaded by the treatment pages to value Prime benefits. This implication is consistent with economic literature on advertising predicting that informational and persuasive advertising increases consumer demand.²³ As I explain above, the results of the Signup Weblabs show that, compared to the control groups, the “clarity”

²¹ See Violette Report, ¶¶ 44-45.

²² Rosenberg Report, ¶¶ 86-89; Hoffman Report, ¶ 346.

²³ For an overview of the demand effects of informational and persuasive advertising, see Kyle Bagwell, “The economic analysis of advertising,” *Handbook of industrial organization* 3 (2007): 1701-1844.

treatments had lower signup rates but higher use of Prime benefits among participants who signed up.²⁴

18. Second, Dr. Hoffman hypothesizes that the clarity treatments had fewer signups because “treatment pages required more cognitive effort to process compared to the control pages.”²⁵ Again, Dr. Hoffman does not address any new or changed design elements in any specific treatment, let alone explain why the treatments require more cognitive effort than the control. She instead simply opines that “a website that requires a high cognitive load of its users might result in confusion or frustration, leading to users who abandon the navigation without completing the task.”²⁶
19. Even setting aside the lack of proof of increased cognitive load in the treatments, Dr. Hoffman’s analysis is flawed. Consumer confusion may likely lead more consumers to sign up for Prime without realizing it. However, my Cancellation Survey analysis shows that reported unintended signups for Prime declined in the treatment group. Consumer confusion may also have led consumers to sign up who did not understand Prime benefits and therefore used fewer benefits once they subscribed. However, subscribers from the clarity treatment groups had higher benefit use relative to those from the respective control groups. Were Dr. Hoffman’s theory supported, one would expect the opposite – higher benefit use by those who signed up through the control page.
20. Third, Dr. Rosenberg opines the selected treatments did not improve clarity because they did not increase the 90-day conversion rate, which measures the share of consumers with active Prime subscriptions 90 days after signing up. Dr. Rosenberg assumes that consumers who sign up for Prime inadvertently would likely discover their subscriptions and cancel within 90 days at a greater rate than consumers who signed up intentionally. According to this assumption, treatments that improve

²⁴ AMZN-PRM-FTC-001184311.

²⁵ Hoffman Report, ¶ 345.

²⁶ Hoffman Report, ¶ 47.

clarity should have also increased the 90-day conversion rate because these treatments would have led fewer consumers to signup inadvertently and cancel soon afterwards. Dr. Rosenberg concludes that “the clarity improvements that were expected to lead to fewer inadvertent signups did not have this expected effect.”²⁷

21. Dr. Rosenberg’s opinion is flawed for at least two reasons. The Signup Weblabs improved the 12-month conversion rate from [REDACTED] to [REDACTED] across the six “clarity” treatments included in Amazon’s retrospective analysis.²⁸ These results are consistent with these treatments reducing signups from consumers who absent the treatment would have (1) enrolled unintentionally, (2) remained unknowingly subscribed for more than 90 days, and (3) finally discovered their subscriptions and cancelled before 12 months had elapsed.
22. Dr. Rosenberg also ignores Amazon’s own explanation of why the “clarity” treatments would not result in a higher 90-day conversion rate. When discussing this issue, one Amazon employee explained that, “low-clarity upsell treatments will drive customers to unknowingly settle due to not checking their bills” while “high-clarity upsell treatments will increase awareness of auto-renew, driving more end-of-trial cancels.”²⁹ Therefore, the 90-day conversion rate metric is an unreliable measure for determining whether the clarity treatments reduced unintentional enrollments. In other words, one could expect clearer UPDP upsells to not only reduce unintentional signups, but also drive early cancellation rates among those who sign up because they are more aware of their Prime subscription and autorenewal terms. For this reason, an Amazon employee commented the 90-day conversion rate is “not a valid sign up quality metric.”³⁰ This analysis contradicts Dr.

²⁷ Rosenberg Report, ¶ 87.

²⁸ AMZN-PRM-001184311 at -313.

²⁹ AMZN_00095807 at -808.

³⁰ AMZN_00095807 at -808.

Rosenberg's assertion that the 90-day conversion rate "is a meaningful, objective metric" for analyzing clarity improvements.³¹

23. Dr. Hoffman and Dr. Rosenberg do not support their theories with empirical evidence, and the results of the Signup Weblabs show that the treatments reduced unintentional enrollment.

Part 2: Results of the Search Sentiment Survey contradict Dr. Kivetz's conclusions that it is invalid and unreliable

24. In this section, I discuss flaws in Dr. Kivetz's opinions about Amazon's 2020 Search Sentiment Survey and its results. As described in my expert report, the Search Sentiment Survey asked respondents, among other things, whether they are an Amazon Prime member; some active Prime members incorrectly reported themselves as "not Prime" or as unsure if they were.³² In my report, I opined that (1) Amazon's design of this question encouraged valid responses, (2) the respondents generally understood the survey questions, (3) their responses likely accurately reflected their beliefs, and (4) respondents who were unaware of their active Prime subscription status have different average characteristics than respondents who were aware.³³ My conclusions were based on my experience and training, as well as quantitative analyses of the survey data.
25. Without offering any independent quantitative analysis, Dr. Kivetz concludes the Search Sentiment Survey is "fundamentally invalid and unreliable for purposes of quantifying or estimating a true rate of alleged unintentional enrollment in Prime."³⁴ Based on the survey data, 119 respondents

³¹ Rosenberg Report, ¶ 88.

³² I identified █████ respondents who were Prime subscribers when they took the survey and for whom subscription sign up information was available in the data Amazon produced. See Violette Report, ¶ 49.

³³ See Violette Report, Part 2, at 16-25.

³⁴ Kivetz Report, ¶ 407; see also Kivetz Report, ¶ 396 (Dr. Kivetz's only reviewed two internal documents Amazon provided him and raw data of survey responses). As noted in my expert report, Amazon itself later analyzed the survey responses to determine whether some consumers were unaware of their Prime subscription status and to better understand the Prime signup process. Violette Report, ¶ 48 (citing AMZN_00098973 at -981).

indicated they were unaware they were active Prime subscribers.³⁵ Dr. Kivetz opines this is not because they unintentionally signed up for Prime, and instead offers various alternative explanations for why they indicated they were unaware of their subscription status.

26. Experts in the field of survey data will seek to compare and analyze survey response data, where available, to test and validate the quality of the survey responses. Experts develop theories to explain why certain responses may be biased and then examine whether patterns in the data are consistent with these theories.³⁶ For example, in his analysis of the Cancellation Survey, Dr. Kivetz theorized that evidence of guessing “is the existence of seemingly inconsistent responses,” which he says is “testable using the survey data.”³⁷ However, both the Search Sentiment Survey data and Prime subscriber data here disprove Dr. Kivetz’s alternative explanations.

27. **Memory bias:** Dr. Kivetz theorizes that respondents may have forgotten they were Prime members.³⁸ If true, this theory would predict that respondents who recently signed up for Prime are less likely to be unaware of their subscription status than others. However, Amazon’s own analysis of the survey responses contradicts Dr. Kivetz’s theory and found that “a greater percentage [REDACTED] of shorter-tenure (two months or fewer) members apparently misreported their status than did longer-tenure members ([REDACTED] of all paid members with tenures between 0 and 15 years).”³⁹ My analysis supports this finding: “unaware” respondents had, on average, [REDACTED] active subscription days

³⁵ See Violette Report, Table 4, ¶ 51 & n.46 (The “unaware” respondents include who, in response to the survey question “Are you an Amazon Prime member,” selected: “No. I have never been a Prime member”; “No. I’m not currently a Prime member, but I have been in the past”; or “I’m not sure if I’m a Prime member or not[.]” The “aware” respondents responded to the same question with: “Yes. I have my own Prime account” or “Yes. I share an account with others in my family or household”).

³⁶ Stefanie Stantcheva, “How to Run Surveys: A guide to Creating Your Own Identifying Variation and Revealing the Invisible,” *Annual Review of Economics*, Vol. 15 (2023): Appendix A-2.2, 23-24.

³⁷ Kivetz Report, ¶ 207.

³⁸ Kivetz Report, ¶ 399.

³⁹ Kivetz Report, ¶ 406; AMZN_00080321 at -329.

(i.e., active days between the start and end of the Prime subscription for the subscription that was active at the time of the survey), whereas “aware” respondents had, on average, [REDACTED] active days.⁴⁰

28. **Past Prime subscriptions:** Dr. Kivetz opines, without any testing, that unaware respondents who indicated they were Prime subscribers in the past were unlikely to have signed up unintentionally because they were “clearly aware that they were once prime subscribers.”⁴¹ To test Dr. Kivetz’s theory, I examined the Prime subscriber data for the [REDACTED] unaware respondents who indicated they were Prime subscribers in the past. [REDACTED] of these respondents [REDACTED] had at least one Prime subscription that ended before they took the survey. Therefore, these respondents could have both (1) unintentionally signed up for their active Prime subscriptions, and (2) correctly referenced their prior subscription status in their response.

29. **Guessing:** Dr. Kivetz opines that the unaware respondents may have guessed in response to the Prime membership status question. According to Dr. Kivetz, “some level of respondent guessing will inevitably occur in virtually all surveys.”⁴² Once again, Dr. Kivetz does not support this hypothesis with empirical evidence.

30. In my expert report, I already examined the data for “seemingly inconsistent responses—that is, responses in which an individual’s self-reported experience or belief as interpreted from the answer to one question conflicts with the same individual’s other responses,” as Dr. Kivetz recommends, to determine the extent of guessing.⁴³ As I showed, the Search Sentiment Survey data are inconsistent with patterns of substantial rates of guessing because the respondent responses are generally

⁴⁰ See Violette Report, Table 4.

⁴¹ Kivetz Report, ¶ 404.

⁴² Kivetz Report, ¶ 400.

⁴³ See Kivetz Report, ¶ 207; Violette Report, ¶¶ 58-66.

internally consistent and are validated by Prime subscription data.⁴⁴ I found that responses to all possible pairs of questions where respondents reported their satisfaction or positive experiences with Prime were positively correlated with each other.⁴⁵ I also found that the device type that respondents used to search on Prime is positively correlated with the device type that respondents used to sign up for Prime.⁴⁶

31. Dr. Kivetz also suggests the Prime status question encouraged guessing because it did not allow for open-ended responses.⁴⁷ However, the question included an option for respondents to indicate that they were unsure of whether they had a Prime subscription, as discussed in my report.⁴⁸ Including such an option is a generally accepted practice in survey design to reduce guessing by allowing respondents to express their uncertainty.⁴⁹

32. **Noise:** Dr. Kivetz opines that other survey-related “noise” resulted in inaccurate responses to the Prime status question.⁵⁰ He notes, as evidence, Amazon’s internal finding that, “[redacted] of non-Prime members thought they had a Prime subscription, but didn’t,” and concludes this “[redacted] represents the baseline level of ‘noise’” in the survey data. “Non-Prime members” refers to respondents Amazon could not match to an active Prime subscription.⁵¹ If this theory is correct,

⁴⁴ See Violette Report, ¶ 55.

⁴⁵ See Violette Report, ¶¶ 58-62.

⁴⁶ See Violette Report, ¶¶ 62-66.

⁴⁷ Kivetz Report, ¶ 400.

⁴⁸ Violette Report, at 19-20.

⁴⁹ See Stantcheva, How to Run Surveys, Supplemental Appendix A-3, at 25-28; See National Research Council, et al., *Reference Manual on Scientific Evidence*, 3rd ed. (National Academies Press, 2011), at 389-391.

⁵⁰ Kivetz Report, ¶ 401.

⁵¹ Kivetz Report, ¶ 401; AMZN_00136625.

such respondents would be expected to display patterns consistent with guessing in their other responses as well.

33. However, I found that survey respondents who (1) self-identified as Prime subscribers and (2) could not be matched to an active Prime subscription did not display patterns consistent with guessing because they offered consistent responses to survey questions about satisfaction with Amazon. I identified 280 respondents who could not be matched to an active Prime subscription and responded, “Yes. I have my own Prime account” to the Prime status survey question.⁵² Among these unmatched, self-identified Prime subscribers, I observed that respondents who express satisfaction or a positive experience with Amazon in one question were more likely to express similar sentiments in another question. I refer to this as positively correlated responses.⁵³
34. For unmatched, self-identified Prime subscribers, I found positively correlated responses for all possible pairs of 17 different survey questions that ask about different aspects of consumers’ satisfaction and experience with Amazon.⁵⁴ Across all of these pairs of questions, I computed an average correlation of 0.41 for unmatched, self-identified Prime subscribers, which is similar to the average correlation of 0.39 for all respondents.⁵⁵ These findings are consistent with unmatched, self-identified Prime subscribers providing responses that accurately reflected their beliefs.

⁵² I focus on survey responses before September 10, 2020. In Amazon’s subscriber data, I did not observe any active subscriptions that matched survey respondents after September 10, 2020. Before then, I matched 4,585 respondents with active subscriptions in Amazon’s subscriber data, regardless of whether data for these respondents included their Prime signup method (e.g., the UPDP upsell).

⁵³ See Violette Report, ¶¶ 59-60 (explaining that “[p]ositively correlated responses . . . suggest that consumers read and understood the questions rather than simply choosing the first multiple choice option to each question”).

⁵⁴ Since Prime subscriber data can be linked to respondents only before September 10, 2020, I limited the calculation to the 17 questions that appeared starting in January, 2020. See Appendix Section I below for details of correlation calculations and Table 1 therein for the pair-wise correlation calculations.

⁵⁵ See Appendix Section I for correlation calculations for respondents who were unmatched, self-identified Prime subscribers. My opening report includes the average correlation calculation for all

35. Dr. Kivetz's analysis also does not rule out other possibilities that could explain unmatched, self-identified Prime subscribers and undermine his conclusion. These other possibilities are also consistent with the data. In particular, Dr. Kivetz did not consider the possibility that these respondents responded accurately, but other factors prevented Amazon from identifying their active subscriptions. For example, such respondents could have taken the survey without logging into their Prime accounts because they were using different devices or browsers. There may also have been data-related errors or technical issues that prevented matching these respondents to Amazon's customer identifiers.⁵⁶
36. **Free trial subscribers:** Dr. Kivetz also argues that respondents who took the survey during the free trial period and identified as not knowing or having Prime subscriptions should not be considered unaware of their Prime subscriptions. Dr. Kivetz postulates that "some (or even many) 'confirmed' trial members did *not* view enrolling in a Prime *free trial* as being a Prime member (or were *unsure* whether the two were distinct)."⁵⁷ Amazon's subscriber data contradicts Dr. Kivetz's theory. Dr. Kivetz's theory implies that free trial subscribers who identified as not knowing or having Prime subscriptions should resemble free trial subscribers that identified as having or sharing Prime subscriptions. Instead, I found that the unaware respondents in free trials were on average [REDACTED]

Prime subscribers across the 17 survey questions that appeared starting in January, 2020. See Violette Report, Table 6 at Column D, at A-3.

⁵⁶ For example, Dr. Kivetz could have examined Amazon's data to determine whether the purported non-Prime subscribers who incorrectly identified themselves as Prime subscribers frequently shared a device or IP address with an active subscriber, or whether diagnostics on the merging process between respondents and customers demonstrated potential errors.

⁵⁷ Kivetz Report, ¶ 405.

more likely to have signed up through a UPDP upsell and used on average [REDACTED] less benefits per active subscription day than the aware respondents in free trials.⁵⁸

37. Dr. Kivetz's theories (without quantitative analysis) underpinning his conclusion that the Search Sentiment Survey is invalid and unreliable are not consistent with my quantitative analyses of the Search Sentiment Survey data.

Part 3: Dr. Wilcox's survey study makes cancelling Prime easier than it is, which undermines his conclusions about the difficulty of cancelling Prime

38. Dr. Wilcox designed and conducted a survey⁵⁹ study that purports to simulate Amazon's "Iliad" process that Amazon required consumers to follow until around April 2023 to cancel their Prime subscriptions online.⁶⁰ Dr. Wilcox then observed how participants navigated his simulated process to draw conclusions about how Prime subscribers likely navigate Amazon's actual cancellation process. These conclusions are invalid because Dr. Wilcox's simulated cancellation process was easier to complete than Amazon's actual cancellation process.
39. Unlike Amazon's actual cancellation process, Dr. Wilcox's simulation differed in three critical ways. First, Dr. Wilcox started participants on the "Prime Central" page of his simulated Amazon website and told them that this page is "where you can manage your Amazon Prime membership settings" and to "interact with the simulated website as you would if you wanted to cancel your Amazon

⁵⁸ I identified [REDACTED] free trial subscribers who were unaware of their subscriptions. These subscribers used on average [REDACTED] benefits per active day and [REDACTED] signed up through the UPDP upsell. I identified [REDACTED] free trial subscribers who were aware of their subscriptions. These subscribers used on average [REDACTED] benefits per active day and [REDACTED] signed up through the UPDP upsell. In my opening report, I detailed how I calculate benefits per active day and determine the signup method from Amazon's subscriber data. See Violette Report, ¶ 68.

⁵⁹ I reference to Dr. Wilcox's study as a "survey" because that is how he refers it.

⁶⁰ Wilcox Report, ¶¶ 8, 11, 15; Amended Complaint, *FTC v. Amazon*, (W.D. Wash. September 20, 2023), Dkt. #69. Around April 2023, Amazon altered the Iliad cancellation process. Dr. Wilcox does not study or opine on Amazon's post-April 2023 cancellation process.

Prime membership” (emphasis in original).⁶¹ Dr. Wilcox then repeated this instruction, again telling participants they are on the page “where you can manage your Amazon Prime membership settings” and they should use that “to cancel” (emphasis in original) their Prime subscription.⁶² The page immediately following Dr. Wilcox’s double instruction for participants to “manage your . . . membership” in order to cancel, states at the top, “Manage Membership” with “Update, cancel and more” beneath it, as replicated below.⁶³ I understand such a display is unique to the Prime Central page and that the FTC alleges that “[t]o cancel [Prime] via the Iliad,” which is the process Dr. Wilcox purports to test, “a consumer had to first locate it, which Amazon made difficult.”⁶⁴ Dr. Wilcox’s survey omits testing this element of the cancellation process—i.e., navigating Amazon.com and finding the Prime Central webpage. Moreover, his instruction to participants that the “Prime Central page of the simulated Amazon website” is “where you can manage your Amazon Prime membership settings” is an instruction not given to real world consumers immediately prior to seeking to cancel their Prime subscriptions. The instruction also undermines one of the stated “goals” of Dr. Wilcox’s survey: “to assess the extent to which respondents would be able to locate the [cancellation process] and the time it took” to do so.⁶⁵

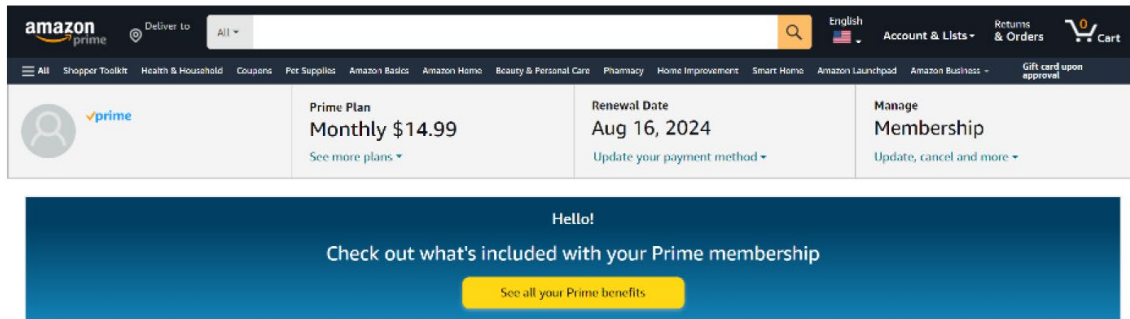
⁶¹ Wilcox Report, Appendix F.1 at 7.

⁶² Wilcox Report, Appendix F.1 at 8.

⁶³ Wilcox Report, Appendix F.1 at 10.

⁶⁴ Amended Complaint, ¶ 131.

⁶⁵ Wilcox Report, ¶ 27.



Source of excerpt: Wilcox Report, Appendix F.1 at 10.

40. Second, during the cancellation exercise, Dr. Wilcox automatically re-directed participants back to the correct process when they clicked on a link that is not part of cancelling.⁶⁶ In other words, where an actual consumer may become diverted by Amazon away from cancelling to other screens and get caught in a proverbial Internet rabbit hole, Dr. Wilcox automatically redirected any lost participant back into the proper place in his simulation.
41. Third, Dr. Wilcox also gave these consumers “additional instructions” informing them that “you have made a selection that ends the simulation without canceling your Amazon Prime membership in the simulation” and “[n]ext, you will re-enter the simulation of the Amazon website starting on the last page you visited.”⁶⁷ Of course, Amazon’s actual cancellation process did no such thing. Instead, Amazon let users freely navigate its website after clicking on a link that did not lead to cancellation. In the real world, consumers who clicked on a link that navigated them away from the actual cancellation process were also not informed they failed to complete the cancellation process.
42. To examine whether these course-correcting instructions were often necessary for participants to cancel successfully, I used Dr. Wilcox’s survey data to examine the number of course-correcting instructions that Dr. Wilcox delivered among the 530 participants that participated in the simulated

⁶⁶ See, e.g., Wilcox Report, ¶ 31.

⁶⁷ Wilcox Report, ¶ 31 & Appendix F.1 at 21.

cancellation exercise.⁶⁸ I found that Dr. Wilcox gave at least one course-correcting instruction to 208 participants (39%); Dr. Wilcox also gave at least two course-correcting instructions to 102 participants (19%); and last, he gave 42 participants (8%) at least three course-correcting instructions. Dr. Wilcox even gave several participants more than ten course-correcting instructions, yet he opined his results “are inconsistent” with the FTC’s allegation that Amazon’s online cancellation procession “inhibited or prevented” any Prime member from being able to cancel.⁶⁹ Even with 10-15 course-correcting instructions from Dr. Wilcox, some participants still did not cancel successfully. Collectively, these findings indicate that respondents frequently did not finish Dr. Wilcox’s simulated cancellation process without clicking on a link that was unrelated to the cancellation process and having to be re-directed back to the correct place by Dr. Wilcox.

43. Next, I examined whether the participants for whom Dr. Wilcox had to provide course-correcting instructions were more likely to take a longer time in the cancellation exercise. For the 530 participants, I calculated the total time in seconds each one spent on the survey. I added the seconds the participant spent before entering the Marketing page of the Iliad cancellation process and the seconds spent afterwards towards completing cancellation. I then divided the respondents into quintiles based on the time spent on the cancellation exercise. For example, the first quintile includes the 20% of respondents with the least time spent while the fifth quintile includes the 20% of respondents with the most time spent. The columns in Figure 1 below reflect the average total time in seconds that respondents spent within each quintile. As shown in Figure 1, respondents in the highest quintile spent on average 177.7 seconds (nearly 3 minutes) on the simulated cancellation exercise.

⁶⁸ See “Cancellation – All Starts – 10.14.xlsx” (containing data Amazon produced with Dr. Wilcox’s expert disclosure materials).


⁶⁹ See Wilcox Report, ¶ 15.

44. I next calculated the total number of course-correcting instructions Dr. Wilcox provided by adding (a) the number of course-correcting instructions Dr. Wilcox gave *before* participants entered the Marketing page of the Iliad cancellation process and (b) the number of course-correcting instructions Dr. Wilcox gave *after*, while the participants spent time towards completing cancellation. I then calculated the average total course-correcting instructions Dr. Wilcox gave for participants in each quintile of total time spent. For example, for the 20% of participants with the least time spent (first quintile), Dr. Wilcox gave 0.20 total course-correcting instructions on average, and for the 20% of respondents with the most time spent (fifth quintile), Dr. Wilcox gave 2.52 total course-correcting instructions on average. The green points in Figure 1 reflect the average total course-correcting instructions given to participants by Dr. Wilcox by quintile of total time they spent.
45. Overall, I found that the participants in higher quintiles of time taken towards cancelling also received more course-correcting instructions on average. These results indicate a positive correlation between time taken and number of course-correcting instructions Dr. Wilcox provided.
46. I also observed a positive association between the length of time participants spent towards cancelling and the number of course-correcting instructions that Dr. Wilcox gave them both for participants that completed the cancellation process and for those that did not. Figure 2 includes a marker for each combination of total seconds (rounded to the nearest second) and total instructions received. The red squares indicate the 19 participants that did not complete the cancellation process, and the blue bubbles indicate the 511 participants that completed the cancellation process. The size of each marker is proportional to the number of participants with that specific combination of time spent and number of course-correcting instructions Dr. Wilcox issued.
47. In particular, the highest quintile of time taken to complete the flow (fifth quintile) had over double the average time taken and over triple the average course-correcting instructions given by Dr. Wilcox compared to all other quintiles, as shown in Figure 1. These results are consistent with some users

having particular difficulty navigating Amazon's cancellation process for Prime, as the FTC alleges.

This evidence contradicts Dr. Wilcox's assertion that his survey results "are inconsistent with the FTC's allegation that the online cancellation process inhibited or prevented Prime members who intended to cancel from being able to do so."⁷⁰

Dated: March 26, 2025



William J. Violette, Ph.D

⁷⁰ Wilcox Report, ¶ 15.

Figure 1: Average total time spent in the cancellation exercise (in seconds) and total instructions received within each quintile of total time spent

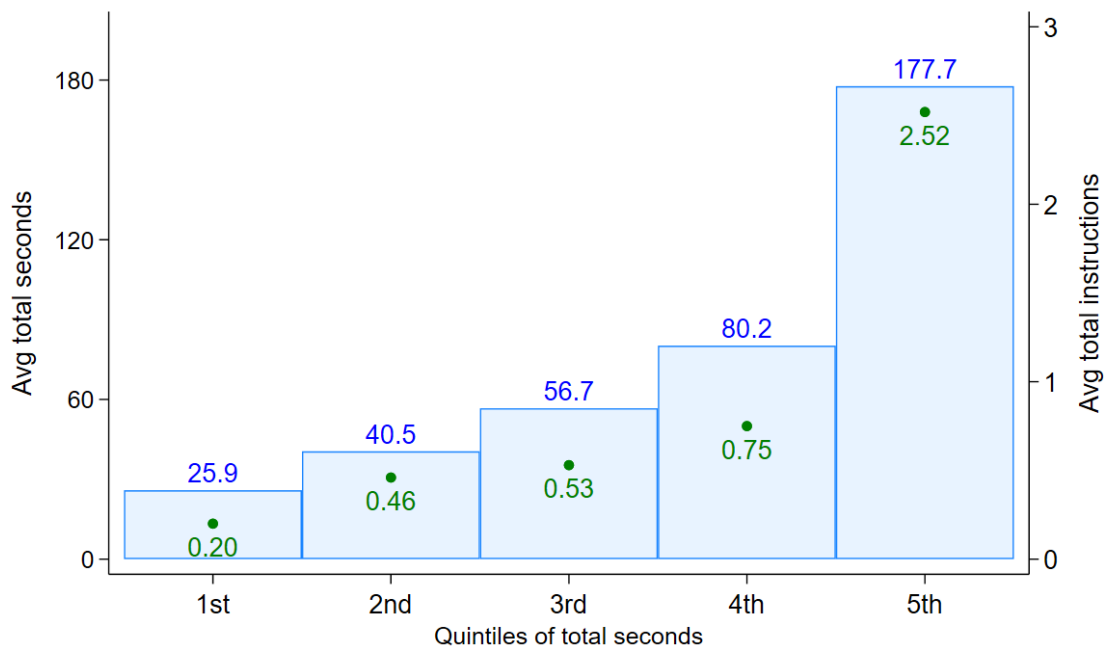
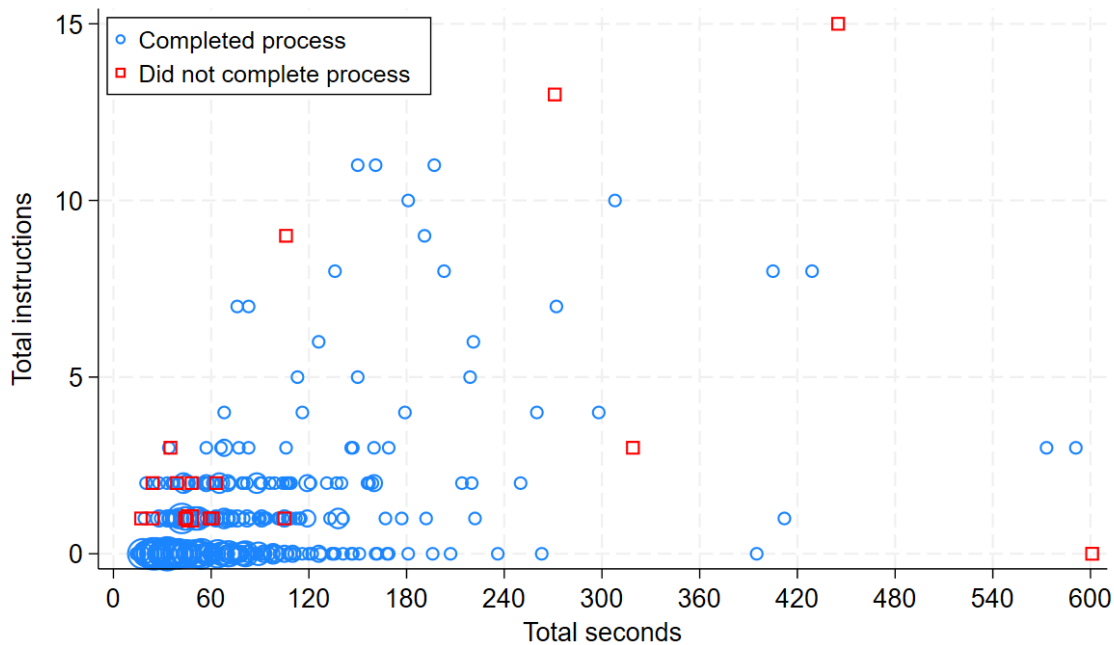


Figure 2: Total instructions and total time spent (in seconds)



Appendix

Section I: Search Sentiment Survey Consistency for Unmatched, Self-Identified Prime Subscribers

1. To measure correlations between responses, I first converted each multiple-choice question about consumer sentiments listed in Table 2 into a variable taking a value of 1 capturing positive sentiments toward Amazon and 0 otherwise.
2. Questions 1 to 3 referenced in Table 2 asked whether respondents agree or disagree with positive statements about Amazon's products. For these questions, I assigned a 1 to responses "strongly agree" and "somewhat agree," and I assigned a 0 to responses "Neither agree nor disagree", "somewhat disagree", and "strongly disagree."
3. Questions 4 to 15 in Table 2 asked whether respondents are satisfied with various aspects of Amazon services. For these questions, I assigned a 1 to responses "extremely satisfied" and "very satisfied," and I assigned a 0 to responses "moderately satisfied," "slightly satisfied," and "not satisfied."
4. Questions 16 to 17 in Table 2 asked how often respondents face difficulties or hesitations when using Amazon. For these questions, I assigned a 1 to responses "rarely" and "never," and I assigned a 0 to responses "sometimes," "most of the time," and "always."
5. For the [REDACTED] unmatched, self-identified Prime subscribers, I computed the correlations between each possible pair of these variables. Table 1 provides the pair-wise correlations of all variables in Table 2 where the question number in Table 2 corresponds to the headings and row labels in Table 1. I observed positive correlations across all possible pairs of questions. I also computed an average pair-wise correlation of 0.41.

Table 1, Part I: Pair-wise correlations between survey responses for unmatched, self-identified Prime subscribers

	1	2	3	4	5	6	7	8	9
1	1.00	0.47	0.42	0.32	0.27	0.25	0.27	0.28	0.25
2	0.47	1.00	0.63	0.21	0.22	0.17	0.16	0.19	0.28
3	0.42	0.63	1.00	0.22	0.11	0.23	0.09	0.16	0.26
4	0.32	0.21	0.22	1.00	0.57	0.42	0.35	0.47	0.52
5	0.27	0.22	0.11	0.57	1.00	0.51	0.47	0.53	0.48
6	0.25	0.17	0.23	0.42	0.51	1.00	0.47	0.49	0.50
7	0.27	0.16	0.09	0.35	0.47	0.47	1.00	0.48	0.41
8	0.28	0.19	0.16	0.47	0.53	0.49	0.48	1.00	0.59
9	0.25	0.28	0.26	0.52	0.48	0.50	0.41	0.59	1.00
10	0.33	0.29	0.24	0.56	0.50	0.54	0.41	0.57	0.68
11	0.31	0.28	0.30	0.57	0.54	0.59	0.43	0.62	0.59
12	0.33	0.19	0.14	0.45	0.52	0.48	0.43	0.75	0.58
13	0.32	0.22	0.29	0.50	0.50	0.45	0.34	0.52	0.49
14	0.30	0.13	0.20	0.50	0.51	0.62	0.49	0.52	0.49
15	0.28	0.19	0.11	0.53	0.73	0.49	0.48	0.56	0.48
16	0.33	0.25	0.18	0.32	0.31	0.29	0.28	0.38	0.34
17	0.19	0.19	0.23	0.44	0.43	0.35	0.34	0.37	0.32

Table 1, Part II: Pair-wise correlations between survey responses for unmatched, self-identified Prime subscribers

	10	11	12	13	14	15	16	17
1	0.33	0.31	0.33	0.32	0.30	0.28	0.33	0.19
2	0.29	0.28	0.19	0.22	0.13	0.19	0.25	0.19
3	0.24	0.30	0.14	0.29	0.20	0.11	0.18	0.23
4	0.56	0.57	0.45	0.50	0.50	0.53	0.32	0.44
5	0.50	0.54	0.52	0.50	0.51	0.73	0.31	0.43
6	0.54	0.59	0.48	0.45	0.62	0.49	0.29	0.35
7	0.41	0.43	0.43	0.34	0.49	0.48	0.28	0.34
8	0.57	0.62	0.75	0.52	0.52	0.56	0.38	0.37
9	0.68	0.59	0.58	0.49	0.49	0.48	0.34	0.32
10	1.00	0.63	0.57	0.53	0.55	0.53	0.45	0.38
11	0.63	1.00	0.55	0.62	0.62	0.55	0.40	0.42
12	0.57	0.55	1.00	0.52	0.50	0.60	0.41	0.33
13	0.53	0.62	0.52	1.00	0.48	0.51	0.36	0.35
14	0.55	0.62	0.50	0.48	1.00	0.50	0.27	0.37
15	0.53	0.55	0.60	0.51	0.50	1.00	0.30	0.40
16	0.45	0.40	0.41	0.36	0.27	0.30	1.00	0.38
17	0.38	0.42	0.33	0.35	0.37	0.40	0.38	1.00

Table 2: Sentiment survey questions that appeared starting in January, 2020

#	Question
1	Agree/Disagree - Amazon has its customers' best interests at heart
2	Agree/Disagree - I enjoy shopping on Amazon
3	Agree/Disagree - Overall, it's easy to shop on Amazon
4	Overall, how satisfied are you with the search results on Amazon on [device]?
5	Satisfaction on Amazon using [device]? - Ability to compare the prices of similar products
6	Satisfaction on Amazon using [device]? - Ability to filter or narrow down search results
7	Satisfaction on Amazon using [device]? - Amount of advertising in the search results
8	Satisfaction on Amazon using [device]? - Amount of information that is shown for each product
9	Satisfaction on Amazon using [device]? - Amount of information that is shown on the search results page
10	Satisfaction on Amazon using [device]? - Completeness of results shown for searches
11	Satisfaction on Amazon using [device]? - Matching quality of the search results
12	Satisfaction on Amazon using [device]? - Usefulness of the information that is shown for each product
13	Satisfaction on Amazon using [device]? - Visual appeal of the search results
14	Satisfaction on Amazon using [device]? - Order in which products are listed
15	Satisfaction on Amazon using [device]? - Ability to compare the features of similar products
16	How often are you hesitant to make a purchase of an item you've already found on Amazon?
17	How often have you had difficulties finding the products that you expected to find on Amazon?

Section II: List of materials considered

AMZN_00080321

AMZN_00080322

AMZN_00095807

AMZN_00110899

AMZN_00136625

AMZN-PRM-001184311

AMZN-PRM-FTC-002650294

Cancellation – All Starts – 10.14.xlsx

May 24, 2024 Letter from Amazon to FTC & Ex. A thereto

responseid_CIDv2

SV_00InYvHGGzsKsBf

Weblab data for PRIME_252596.dta

Legal Documents⁷¹

Amended Complaint, Dkt. #69

Expert Report of Craig Rosenberg, Ph.D. (Feb. 24, 2025)

Expert Report of Donna L. Hoffman, Ph.D. (Feb. 24, 2025)

Expert Report of Neale Mahoney, Sections II.D & III (Mar. 24, 2025)

Expert Report of Ran Kivetz (Feb. 24, 2025)

Expert Report of Ronald T. Wilcox, Ph.D. (Feb. 24, 2025)

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National Research Council, et al., *Reference Manual on Scientific Evidence*, 3rd ed. (National Academies Press, 2011), at 389-391

Robert M. West, “Best practice in statistics: Use the Welch t-test when testing the difference between two groups,” *Annals of Clinical Biochemistry*, 58(4) (2021): 267-269.

Stefanie Stantcheva, “How to Run Surveys: A guide to Creating Your Own Identifying Variation and Revealing the Invisible,” *Annual Review of Economics*, Vol. 15 (2023): Appendix A-2.2, 23-24

⁷¹ All documents listed herein were filed or provided in this matter, *FTC v. Amazon, Inc.*, Case No. 2:23-cv-0932-JHC (W.D. Wash.).